

CLAIMS

What is claimed is:

Sub a1 1. A system for optically sensing manufacturing defects in OPC devices, the system comprising:

an illumination source for illuminating the OPC device;

at least one optical sensor positioned to view the illuminated OPC; and

a controller connectable to the optical sensor, the controller comprising a threshold detector for sensing bottom edge wipe (BEW) manufacturing defects in the OPC device.

2. A system as in claim 1 wherein the illumination source comprises a light emitting diode (LED).

3. A system as in claim 1 wherein the illumination source comprises a LASER.

4. A system as in claim 1 wherein the illumination source comprises:

an emitter, wherein the emitter emits electromagnetic radiation of at least one wavelength.

5. A system as in claim 1 wherein the at least one optical sensor comprises a charge coupled device (CCD) camera.

Sub a2 6. A system as in claim 1 wherein the controller is associated with a data storage area, wherein the data

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storage area may be used to store predetermined threshold values and classification result;

7. A system as in claim 1 wherein the threshold detector comprises an array of pixels and the controller further comprises a pixel counter for counting.

8. A system as in claim 1 wherein the controller is associated with a monitoring device for alerting a user.

9. A system as in claim 8 wherein the monitoring device further comprises a visual display monitor.

10. A system as in claim 8 wherein the monitoring device further comprises an audio monitor.

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11. A method for optically classifying residues on at least one bottom edge area of a OPC, the method comprising the steps of:

illuminating the at least one bottom edge area of the OPC;

capturing reflected illumination from the at least one illuminated bottom edge area of the OPC device;

comparing the captured reflected illumination with at least one threshold level; and

classifying the at least one bottom edge area of the OPC device based upon the comparison of the captured reflected illumination with the at least one threshold level.

12. A method as in claim 11 wherein the step of illuminating the at least one bottom edge area of the OPC device further comprises the step of illuminating the OPC

bottom edge area with electromagnetic radiation of at least one wavelength.

13. A method as in claim 11 wherein the step of capturing reflected illumination from the at least one illuminated bottom edge area of the OPC device further comprises the step of digitizing the captured reflected illumination.

14. A method as in claim 11 wherein the step of capturing reflected illumination from the at least one illuminated bottom edge area of the OPC device further comprises the step of converting the captured reflected illumination to an analog signal.

15. A method as in claim 11 wherein the step of comparing the captured reflected illumination with at least one threshold level further comprises the step of comparing the captured reflected illumination with a predetermined pixel count.

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~~16. A method as in claim 15 wherein the step of comparing the captured reflected illumination with a predetermined pixel count further comprises the step of comparing the captured reflected illumination with a predetermined gray level pixel count.~~

17. A method as in claim 11 wherein the step of comparing the captured reflected illumination with at least one threshold level further comprises the step of comparing the captured reflected illumination with a predetermined analog voltage level.

18. A method as in claim 11 wherein the step of classifying the at least one bottom edge area of the OPC further comprises the step of classifying the at least

one bottom edge area as acceptable or alternatively as non-acceptable.

19. A method as in claim 11 wherein the step of classifying the at least one bottom edge area of the OPC further comprises the step of classifying the at least one bottom edge area as one of acceptable, non-acceptable, and quasi-acceptable.

20. A method for optically discriminating an Organic Photo Conductor (OPC) device, the method comprising the steps of:

illuminating a bottom edge area of the OPC device;

positioning an optical sensor to view the illuminated OPC bottom edge area; and

providing a controller connectable to the optical sensor, the controller having a threshold discriminator.

21. A method as in claim 20 wherein the step of illuminating the bottom edge area of the OPC device further comprises illuminating the bottom edge area of the OPC device with a visible light source.

22. A method as in claim 20 wherein the step of positioning the optical sensor to view the illuminated OPC bottom edge area further comprises positioning a charge coupled device (CCD) camera.

23. A method as in claim 20 wherein the step of providing the controller connectable to the optical sensor further comprises the steps of:

providing a gray level band discriminator;

classifying the OPC device as acceptable, non-acceptable, or quasi-acceptable based upon said comparison.